This is only my first notes and ideas on this file.
Needs to be rewritten and additional comments ...

OUT-OF-PLACE COELACANTHS

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Oceans, which cover more than 70 % of our planet, harbour many animal species still unknown to science, including fishes : each year, several dozen fish species are described (BERRA and BERRA 1977, HEUVELMANS 1983), sometimes very large ones, as it has been demonstrated by the discovery of the megamouth shark (*Megachasma pelagios*) in 1976, only described 7 years later (TAYLOR, CAMPAGNO and STRUHSAKER 1983). However the most spectacular discovery of the twentieth century is certainly that of the coelacanth fish.

The first coelacanth

On December 22, 1938, off the coast of South Africa near the Chalumna river, captain Hendrick Goosen caught a very strange fish in the nets of his fishing trawler *Nerine*, from a depth of about 70 m (230 feet). There had been an "upwelling" of cold water and deep sea sharks had been also trawled at this occasion from this unusually shallow depth. The fish in question was still alive when it was captured. It was of a blue metallic colour, about 1.50 m (5 feet) long and weighed almost 60 Kg (130 pounds). Its more curious features were its trilobate tail and its pedonculated fins.

Miss Marjorie Courtenay-Latimer, a taxidermist at the East London Museum, naturalised the fish but could not identify it. She made a drawing, which she sent to professor J.L.B. Smith, ichthyologist at the Cecil Rhodes University in Grahamstown : he recognized at a first glance that it was a fish belonging to the crossopterygians, and more precisely to the coelacanthiform order, supposed to have become extinct for 65 million years! His subsequent study confirmed his first impression, and he described this "living fossil" in *Nature* in 1939, as *Latimeria chalumnae*, in the honour of miss Courtenay-Latimer and in reference to the place of the capture (SMITH 1939).

The search for the habitat of *Latimeria*

Professor Smith then tried to collect a second specimen. He distributed thousands of leaflets, printed in English, French and Portuguese, with the photograph of the specimen, along the coasts of South Africa and Mozambique, with a reward of £ 100, for everybody who could provide a second specimen, dead or alive. He collected at least one witness' account from the Mozambique Channel :

"In 1948 I met a native in the Bazaruto area of Mozambique who picked on the fish at once. [...] In the water it was like a big *Garrupa* (rock cod), but when he got it out the big scales and the peculiar fins stamped it on his memory as unique. He spoke of its oiliness, the soft flesh, and the absence of bone, things about which he could never have known except from an actual specimen. He could not say if the tail was the same, but it was near enough." (SMITH 1956).

Smith came to the conclusion that the species was living off Comoros Islands, and that the first specimen was only a stray individual (as well as the Bazaruto one). A second specimen was actually fished and kept for scientific study on December 20, 1952, off Anjouan Island in this then French archipelago. It was again described by Smith as *Malania anjouanae* (SMITH 1953), but it turned out later to belong to the same species as the first specimen. Since 1952, about 200 specimens have been caught off Comoros Island : the habitat of the coelacanth has thus been discovered through a cryptozoological method, involving testimonial evidence. Even more significant for cryptozoology, it appeared that this fish was well known to the native fishermen : each year, they caught one or two of these fishes (SMITH 1953), which they called *M'tsamboïdoï* or more easily *Kombessa*. They not only used to eat this fish, but they even used its spiny scales to roughen their bicycle tires before sticking a piece of rubber (SMITH 1956) ! If it was a discovery for Western science, it was certainly not for Comoros fishermen...

Meanwhile, several reports of out-of-place coelacanths had been recorded from the coast of South Africa, after the discovery of the first specimen :

"A reliable citizen-angler of East London has stated that he had some five years previously come across exactly such a fish, only considerably larger, partly decomposed, cast up by the waves on the shore some miles east of East London. He described the specimen in such terms as to render it very likely that he was not mistaken, and stated that when he returned with assistance to fetch the monster, it had disappeared with a risen tide. Also, though probably less reliable than the above, is a statement emanating from some member of the crew of a fishing vessel, that one of them had seen no less than six such fishes taken in one haul near Durban. All had been discarded as unknown vermin." (SMITH 1940).

A second "wave" of reports appeared after the discovery of the second specimen :

"In 1956 J.L.B. Smith received a letter from Mr. Bert Spring, the lighthouse keeper at Cape St Blaize near Mossel Bay, who stated that he had seen a coelacanth swimming near the surface of the water." (BRUTON 1989).

Michael Bruton has even published a much more astounding story :

"Recently I had the privilege to visit the old boardroom of the famous shipping and timber company in Knysna, Thesens, courtesy of the well-known novelist, Hjalmar Thesen. He showed me a remarkable painting by his uncle, Leonard Thesen, which quite clearly depicts the coelacanth, resplendent in blue with white flecks, along with other common fishes from that area, such as leervis, kob and parrot fish. The painting was originally done on a piece of curtaining for a cottage purchased in 1924 but has since been framed and covered with glass. A label on the glass states that the painting dates from 1925, which would be extraordinary if it is true." (BRUTON 1989).

Extraordinary indeed, because this painting was made 13 years before the discovery of the first specimen ! And it confirms that the occurrence of the coelacanth in South African waters is not a rare event. In fact, a second stray specimen has been just recorded : it was trawled at a depth of 40-45 m off Quelimane (Mozambique) in August 1991 (SCHLIEVEN, FRICKE, SCHARTI, EPPLEN and PÄÄBO 1993).

Burchard Brentjes, a German zoologist who specialized in the history of zoology, has commented upon an artistic representation of the 18th century, on an Indian (((miniature))). (BRENTJES 1972).

[...]

When the second coelacanth was found off Comoros Islands, Pr. J.L.B. Smith received several letters more or less incredible :

"People from many countries wrote to tell of coelacanths they had seen there. An American soldier stated that they were common in the fish-markets of Korea. A woman in Bermuda was positive one had been offered to her by a fisherman there." (SMITH 1956).

Smith did not comment this claim, but as it is quoted among several letters from crazy people, it is clear that he did not believe that coelacanths were lurking in Northern Atlantic.

Another account came from a Mr Geoffrey Cartwright, a Salisbury businessman, who claimed to have seen the fish in November 1952 in shallow water, while diving off Malindi (northern Mozambique) :

"I found myself staring into its baleful green eye. The creature looked so menacing and evil — and a million years old — that I was thoroughly scared for the moment. It had cruel jaws set with fierced dagger-sharp teeth... It made no move to attack but continued to tread water with its strange fins almost like a malformed human hand. It weighed, I'm sure, about 150 lbs. and had thick, bluish grey scales like steel plating. The thing was like some denizen out of a marine nightmare." (SMITH 1953, 1956; BRUTON 1989).

"Although J.L.B. Smith gave no credence to this record, as well as to another by a native fisherman at Bazaruto, subsequent research has revealed that it is very unlikely that a snorkel-diver would encounter a coelacanth in shallow water." (BRUTON 1989).

[...]

[...]

wrong ! Smith wrote he could not ~~blame~~ think to any other fish than a coelacanth

Unidentified scales

Meanwhile, another coelacanth alert had come from Florida. In 1949, ichthyologist Isaac Ginsburg, then of the U.S. National Museum in Washington, received a fish scale which he could not identify :

"This scale is like no other fish scale I have ever seen, Dr. Ginsburg said. It is not the scale of any of the several hundred known fish species of the Gulf of Mexico, he stated, and it is apparently of primitive structure.

"It is not impossible that this is the scale of coelacanth, Dr. Ginsburg said [...]." (Anonymous 1953).

It should be remembered that at this time only the first specimen of the coelacanth, caught in 1938 off Chalumna river, was known. The origin of this scale is a story in itself. A woman from Tampa, Florida, used to buy fish scales from fishermen for making ornaments :

"One day in 1949, she bought a gallon of scales like none she had ever seen before, about one and a half inches [4 cm] in diameter, the size of tarpon scales but of a different structure entirely."

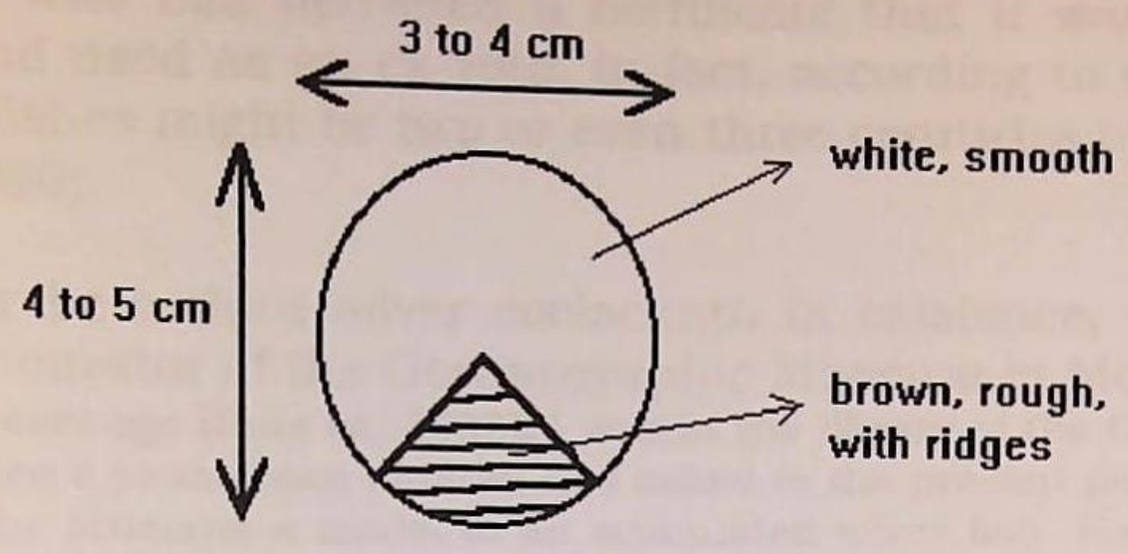
This woman, as mysterious as the fish involved, sent one of the scales to Dr. Ginsburg, who wrote the woman for more information, but his letter was never answered (Anonymous 1953, LEY 1959).

I have written to the *Smithsonian Institution* in Washington, and to the *Fish and Wildlife Service*, where Dr. Ginsburg had worked, but the scale has been lost, and no photograph is known in existence — unfortunately !

I had thus classified this file as a dead point, when quite recently I received news about a similar sounding story. A friend of mine, French naturalist Roland Heu, found in 1992 in a shop in Biloxi (Mississippi) a gallon of unidentified scales. The dimensions of these oval scales are 4 to 5 cm long and 3 to 4 cm wide. Roland HEU describes them as follows :

"The part which would be visible in the living fish represents only the third of the length, so that the animal would be covered with a cuirass of three superposed layers of very hard scales of a peculiar ossified structure." (Anonymous 1993a).

We shall publish the photographs



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The dimensions of the Biloxi scales are similar with that of the Tampa scale. There is a relation between the diameter of the scales and the length of the fish, about 50 times longer, thus giving a length of about 1.5 to 2.5 m to this fish, consistent with that of a large coelacanth.

Interestingly, professor Hureau, another French specialist of *Latimeria* at the *Muséum National d'Histoire Naturelle* in Paris, when examining these scales, said to Roland Heu : "should they come from Comoros, I would say they are coelacanth scales".

However, according to some, these scales come from a large fish living in Amazon river, *Arapaima gigas* (Anonymous 1993b).

(((I have been unable to check yet, the library of the Museum in Paris is closed for several months...)))

A similar story of unidentified scales has been recorded in 1993 by J. Richard Greenwell, secretary of the *International Society of Cryptozoology*. American naturalist Sterling Lanier told him this story :

"About 20 years before, when he was selling his well-known brass figurines of fossil animals at an outdoor art show near Florida's Gulf coast, another artist was displaying a necklace mad of fish scales that "looked very much like those of *Latimeria*". He had extracted them from a pile of "trash" fish, crabs, and seaweed from a Gulf shrimp boat. "He had caught their glitter", recalls Lanier in his statement, "and picked them out, one by one."

"The owner let Lanier examine and sketch the scales, but he refused to sell the necklace. Unfortunately, Lanier, now retired in Sarasota, Florida, has lost the original notes and sketches, and all we have is his statement." (GREENWELL 1994).

[we shall publish also the photographs]

The silver ex-votos

In 1966, Donald P. de Sylva published an article in *Sea Frontiers*, about a silver coelacanth photographed by Argentinean chemist doctor Ladislao Reti, in a church near Bilbao (on the Atlantic coast of Spain). It was used as an *ex-voto* hanging from the vault (marine *ex-votos* are generally paintings made in order to thank a Saint or the Virgin Maria for having escaped to a wreck). This silver coelacanth was 4 inches (10 cm) long, and doctor Reti estimated it was about one century old (SYLVA 1966, BRUTON ~~1989~~ 1985).

De Sylva thus suggested that coelacanths might be living off Canaries, Azores or even in the Mediterranean Sea.

In 1965, a Belgian student in biology, Maurice Steinert, sent to professor Millot a photograph of a similar, but more beautiful, silver coelacanth, 36 cm (more than one foot) long. He had bought this artefact in Toledo (Spain) to an

antiquarian, who had delivered a certificate that it was more than eighty years old, and used as an ex-voto. In fact, according to some silver experts, these silver fishes might be two or even three centuries old (ANTHONY 1976, MOUTON 1990).

There may be a third silver coelacanth in existence, according to Dr. C. Carpine, the curator of the Oceanographic Museum in Monaco :

"About 30 years ago [thus ca. 1963], I was in the library of the Oceanographic Museum in Monaco, when a young man entered and asked to the present people if they believed he could sell to the Museum a model of an articulated silver fish. He showed us the object, which reached (more or less) one meter [3.3 feet] in length. I recognized at once a very well represented coelacanth." (CARPINE 1993).

At that time, captain Jacques-Yves Cousteau was the director of this Museum; unfortunately, there was not enough money for this purchase. Dr. Carpine added he had some reasons to think that the man was Spanish (from his accent, I presume...).

The question is : how a Spanish artist could have been aware of the survival of the coelacanth decades (or even centuries) before its "official" discovery?

It has been suggested by a closed-minded ichthyologist that they might be faked (THOMSON 1992), but his remarks show that he did not look carefully at the photographs of these silver coelacanths.

The first (serious) reply which comes to mind is that it is an artistic representation made from a fossil coelacanth. According to Jean Anthony, a French specialist of *Latimeria*, that is quite unlikely, because it would suppose too perfect a knowledge in comparative anatomy and palaeontology (both sciences were even not yet born two centuries ago). Moreover, fossil remains of coelacanthiforms were, and still are, too incomplete to allow such an accurate reconstruction. The only possibility is that the artist had a living or freshly caught coelacanth fish as a model.

Second idea : we can suppose that a Spanish boat visited Comoros Islands two or three centuries ago, that its crew saw a coelacanth just caught, that a drawing of the fish was made, which was then brought back to Spain, where an artist used it for its silver work!— quite possible, but with many "if". In addition, as two (or three) Spanish silver coelacanths are known to exist, there seems to be a peculiar Spanish tradition about this fish.

This leads us to the last possibility : a population of coelacanths, still unknown to science, might be living off a Spanish territory. After all, the Comoros population remained unknown to Western science till as late as 1952. Given the morphology of the coelacanth, and what is known of its biotope, one would expect a habitat more or less similar with the Comoros, that is to say a rough, volcanic and tropical archipelago, with depths of 100 to 400 m : Canaries, or Bermudas (once Spanish) would be good candidates, which reminds us of the letter sent to J.L.B. Smith, about coelacanth in Bermudas (see above).

A close examination of the Steinert silver coelacanth (the best made of both) reveals however some differences with *Latimeria chalumnae* : the head is definitely different, and the epicaudal lobe of the tail (the third, central lobe) is much less marked than in *Latimeria*. If these differences are not

artistic liberties — and it does not seem so, as all other details are represented with accuracy — they would indicate that the silver ex-voto depicts not only a new population, but also a new species of coelacanthiform.

In order to know more on these silver fishes, it has been suggested to study them with a metallographical microscope : this examination might provide information on the technics of metal work used, hence on the antiquity of the object. It has been also suggested to do physics and chemistry analyses, which could allow us to discover the geographical origin of the silver (((minerai))), hence of the possible origin of the model. (MOUTON 1990)

German researcher Hans Fricke, who was able to film the coelacanth in its Comoros habitat from a "pocket submarine", has been interested in the problem of out-of-place coelacanths. A merchant of rare fishes told him that he had seen a photograph of a coelacanth in a Portuguese magazine he could not remember : it might be in fact an article about Mozambique, a Portuguese colony till 1975, from which we have a native record (Bazaruto Island) in 1948 (see above).

Then Hans Fricke received two phone calls about the presence of a coelacanth in a fish market in one of the Balearas (FRICKE 1988).

[...]

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